Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Wireless Operations in the 3650-3700 MHz Band	)	ET Docket No. 04-151
	)	
Rules for Wireless Broadband Services in the 3650-3700 MHz Band	)	WT Docket No. 05-96
	)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	)	ET Docket No. 02-380
	)	
Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band	)	ET Docket No. 98-237

To: The Commission

PETITION FOR RECONSIDERATION OF THE ENTERPRISE WIRELESS ALLIANCE

The Enterprise Wireless Alliance ("EWA" or "Alliance"), in accordance with Section 1.429 of the Federal Communications Commission ("FCC" or "Commission") rules and regulations, respectfully requests reconsideration of certain aspects of the Commission's decision governing non-Federal Government wireless operations in the 3650-3700 MHz ("3650 MHz") band ("Band").[1] The Alliance enthusiastically supports the FCC's allocation of this spectrum for advanced wireless offerings. Many of its members are eager to pursue deployment of Metropolitan Area Networks ("MANs") in support of enterprise business activities, as well as wireless internet service provider ("WISP") and other fixed and

[1] *Report and Order and Memorandum Opinion and Order,* ET Docket No. 04-151, 20 FCC Rcd 6502 (2005) ("R&O" or "Order").

mobile applications. However, EWA shares the concern expressed by a number of commenters that the absence of reliable interference protection standards will discourage manufacturer and user interest in the Band. The Alliance urges the FCC to revisit the licensing approach adopted in the Order to address this fundamental issue.

I. BACKGROUND

In its Notice of Proposed Rulemaking in this proceeding, the FCC tentatively concluded that allowing the 3650 MHz Band to be used on an unlicensed basis would promote efficient use of the spectrum, as well as the introduction of new and advanced services, particularly in rural areas.[2] A number of parties, including the Industrial Telecommunications Association, Inc. ("ITA"), EWA's predecessor organization, disagreed. They expressed serious concern that an unlicensed 3650 MHz Band would frustrate the FCC's objective of promoting the introduction of innovative services, including the delivery of services to more rural communities. For example, ITA noted that parties considering acquiring such technology needed a "more certain, reliable spectral and geographic environment" to justify the investment.[3] Motorola, Inc. and Intel Corporation, two likely manufacturers of equipment for use in the 3650 MHz Band, both expressed substantive objections to a regulatory scheme that did not provide for some type of license exclusivity.[4] Both stressed the importance of reasonable quality of service levels and the likelihood of

[2] R&O at ¶ 11.
[3] ITA Comments at p. 4.
[4] See, *e.g.,* Comments and Reply Comments of Motorola, Inc. and Intel Corporation.

congestion-related interference should operations in the Band be entirely unlicensed.

In response, the Commission adopted a novel licensing approach for the 3650 MHz Band, a hybrid of the unlicensed "commons" approach outlined by its Spectrum Policy Task Force[5] and the type of shared spectrum use prevalent in certain private land mobile radio ("PLMR") service bands. All eligible applicants will be authorized to operate on a shared basis with all other licensees on the entire 50 megahertz of spectrum in the Band, subject to protecting grandfathered Fixed Satellite Service and Federal Government stations.[6] Licensees will be required to register their base station facilities in the Universal Licensing System ("ULS") prior to commencing operation, but traditional "first-in-time" protection rights in the event of interference will not be available. Instead, all licensees, whenever granted, will have a mutual obligation to cooperate in avoiding harmful interference. The Commission intends to rely on technical requirements, rather than a licensing scheme to address interference. Licensees will be required to use technology with a contention-based protocol that will control access to spectrum. Mobile stations also will be required to positively receive and decode an enabling signal transmitted by a

[5] See, Spectrum Policy Task Force Report, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228542A1.pdf.

[6] A similar regulatory approach was used in at least one other instance by the FCC. No channel from reallocated TV channels 14-20 was available to any single Part 22 eligible carrier, of which there were only a few per market at the time the spectrum was made available. Rather, the rules required all carriers in a market to reach agreement regarding use of that spectrum in that area. As a result, this spectrum remained unused in virtually all markets for decades until the regulatory approach was revised.

base station, thereby tethering mobiles to an operating area within a reasonable range of the associated base station.

In support of its non-exclusive licensing approach, the Commission noted that it is similar to the rules governing the PLMR bands in which multiple licensees share channels on a non-exclusive basis.[7] The Order states, "Our experience in the shared PLMR frequencies shows that non-exclusive use of frequencies can work well in some circumstances from an interference management perspective."[8] The Commission concluded that this regulatory framework, in conjunction with the technical safeguards provided by contention-based protocols embedded in the equipment, would provide sufficient assurance to prospective users and equipment providers to support investment in the Band.[9]

EWA and its members are eager to access the 3650 MHz Band to meet a variety of communications needs. They also have extensive experience with shared PLMR use. Thus, the Alliance is well-positioned to express its reservations about the licensing approach the Commission has adopted and to urge revisions that will promote flexible use of the Band on a more timely basis.

II. THE RULES SHOULD PROMOTE INDUSTRY-APPROVED APPROACHES TO ACHIEVING NON-INTERFERING USE OF THE BAND

The Alliance shares the FCC's interest in seeing that the rules governing the 3650 MHz Band permit multiple entrants and provide opportunities outside the major metropolitan areas. A number of EWA members, both enterprise businesses

[7] R&O at ¶ 26.
[8] *Id.*
[9] R&O at ¶¶ 30.

and commercial providers, are located outside the more urbanized parts of the country. Many have a keen and immediate interest in deploying 3650 MHz Band systems in their operations. They are particularly interested in MANs, networks that cover less than a full metropolitan area, but more than an individual location such as a Starbucks or similar types of "hot spots" for which other spectrum already has been made available. Enterprise users anticipate using such networks for a variety of functions, all of which are tied to improved corporate productivity. For example, petroleum and power company employees in the field increasingly require access to corporate databases when performing maintenance and repair work on critical facilities. Package delivery services cannot be run efficiently without virtually constant exchanges of wireless data. These types of operations frequently have coverage requirements and applications unique to their particular businesses which would be well-suited to privately operated MANs in this Band. To the extent the licensing approach adopted by the FCC provides these types of companies with meaningful opportunities to acquire this spectrum on a geographically rational basis, it will advance the FCC's objectives and their own.

However, it is unlikely that EWA members or other prospective users will invest in the Band without a reasonable level of confidence that their systems will not experience destructive interference. This issue is of particular concern because of the somewhat larger coverage areas these networks are expected to serve. As the size of the coverage area increases, so does the possibility of network overlap and, thus, potential interference. Prophylactic measures that may be effective in bands where each system has a very limited range are not necessarily adequate when the

required service areas are larger. If the Commission intends rural WISPs and other entities to rely on the Band for the delivery of new and innovative services as described in the R&O, EWA believes further interference measures must be implemented.

Thus, while EWA agrees that there are similarities between the approach adopted in the Order and the shared PLMR bands with which the Alliance is intimately familiar, there also are significant differences. Perhaps most critical, the concept of "first-in-time" is well established in those bands. New entrants are obligated to correct interference they cause, even if they are operating in accordance with the rules and the terms of their authorization. This permits prospective users to monitor channel usage and take other due diligence steps to determine whether the spectrum is adequate for their intended purposes prior to deployment, secure that any interference arising thereafter will be the newcomer's responsibility.[10] Further, channel assignments are recommended by FCC-designated Frequency Advisory Committees on the basis of the "best available" frequency at that time and at that location, taking into account the existing spectrum environment. Careful consideration is given to the operations of existing licensees before channel recommendations are made.

The licensing approach adopted for the 3650 MHz Band does not have either of those important protections. The FCC has specifically rejected a "first-in-time" concept and expects all licensees to self-coordinate based on registrations in the

[10] This obligation also provides a motivation for new entrants to use care when identifying possible channel selections and transmitter locations.

ULS database.[11] To the extent interference is to be avoided (as opposed to corrected after the fact by the parties' required good faith cooperation), prospective users will need to rely on the effectiveness of the contention-based protocols developed for equipment in the Band.

It may be that equipment with this capability will be developed at some future date. However, there is no record support confirming that it will be available in any foreseeable future. The manufacturers most likely to lead a development effort have given no indication that such an initiative is underway. The Commission has said only that it will leave to the industry the responsibility of developing "flexible and efficient methods for meeting the technical requirements we adopt herein."[12] Thus, under the current rules, parties such as EWA members that are interested in deploying MANs for use in their enterprise activities or WISPs eager to extend broadband capabilities to rural communities will be unable to do so unless and until the industry has responded to the FCC's directive and such equipment is developed. In the meantime, this eminently usable spectrum will remain vacant.

For this reason, EWA recommends that the FCC broaden the scope of the charge it has given the industry. The Commission's objective is to allow shared use of the Band, while providing reasonable protection against destructive interference. Developing reasonably priced equipment with contention-based protocol capability

[11] It is unclear whether licensees are required to register only the location of their fixed transmitters or the spectrum that will be deployed at the location. If only location information is required, it is not apparent how subsequent licensees are supposed to use the data, except to identify the potential sources of interference should it occur.
[12] R&O at p. 19.

is one way to achieve that goal, provided, however, that the equipment is demonstrably capable of providing the requisite interference protection and has been determined by the industry generally to satisfy that requirement. However, other approaches might work as well, at least on an interim basis until such equipment becomes available. To the extent well-tested spectrum management tools such as prior coordination achieve the same result of allowing multiple parties to share the use of the Band in the same geographic area, the industry should be encouraged to reach a consensus on band management approaches that would permit this spectrum to be placed into productive use on a timely basis. EWA would welcome the opportunity to convene or participate in an industry working group with that objective and believes positive results could be accomplished in relatively short order.

III. CONCLUSION

The Alliance hopes to work with the FCC to make the 3650 MHz Band available to a broad range of entities across the nation as quickly as possible. For that reason, it urges the Commission to reconsider and broaden the licensing approach adopted in the instant Order consistent with the recommendations contained herein.

Respectfully submitted,

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